

Category: Railyard Operations

California's railyard operations emissions inventory is an estimate of the amount and types of pollutants emitted from equipment used in the daily operations at railyards statewide. This category represents diesel engines registered through the California Portable Equipment Registration Program.

The four equipment types in this category are:

<u>Equipment Type</u>	<u>Fuel Type</u>	<u>2000 Population</u>
Compressor	D	2
Crane	D	4
Generator	D	2
Material Handling	D	1

Their annual activity in hours/year are:

<u>Equipment Type</u>	<u>Fuel Type</u>	<u>(hr/yr) Activity</u>
Compressor	D	815
Crane	D	815
Generator	D	338
Material Handling	D	815

Emissions Inventory:

As with other OFFROAD equipment types, the emissions inventory for railyard operations equipment is calculated as the product of the emission rate (in grams per horsepower-hour), engine population, and activity (hours per year) in annual average use hours.

[Calculating Emissions Inventory \(PDF Format\)](#)

For the current emissions inventory (tons/day):

[Air Resources Board Almanac](#)

Input Data Sources:

The input factors used by the OFFROAD Model are obtained from various data sources listed below:

Input Factor	Source of Data (Diesel)
Population (base year 2000)	CA Portable Engine Registration Program (PERP) (2004)
Useful Life	Power Systems Research (1996)
Activity (hr/yr)	Power Systems Research (1996)
Average horsepower	Power Systems Research (1996); PERP (2004)
Load factor	Power Systems Research (1996)
Allocation factor	Energy & Environmental Analysis (EEA) document (1995)
Growth factor	DRI/McGraw-Hill employment data (1994)
Survival rate	Power Systems Research (1996)

For more additional background information on the input factors used by the OFFROAD Model: [\(Document Link\)](#)

For tables of input data for railyard operations equipment: [\(Document Link\)](#)

Adopted Regulations for Railyard Operations Equipment:

2005: *(Reflected in OFFROAD Model)* Board approved Regulation to Establish a Statewide Portable Equipment Registration Program. [\(Document Link\)](#)

2004: *(Reflected in OFFROAD Model)* Board approved amendment to California's existing off-road diesel regulations to harmonize with USEPA Tier 4 regulation (40 CFR 1039). [\(Document Link\)](#)

2000: *(Reflected in OFFROAD Model)* Board approved the emissions inventory for off-road large CI engines (≥ 25 hp) from the OFFROAD Model. [\(Document Link\)](#)

Future Improvements to the Railyard Operations Category:

The emissions inventory from the OFFROAD Model strives to accurately represent the 'real-world' as accurately as possible. Therefore, the methodologies and data sources are constantly re-evaluated and updated where applicable. The following items are future improvements for the railyard operations category:

- Update population and activity values as new data becomes available
- Development of growth factors based on economic indicators
- Allocate equipment from the county down to the neighborhood level (GIS)